Fluoride FAQs

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Questions & Answers About Fluoride

Fluoride has been added to the city of Boulder's water treatment process since 1969. That year, Boulder voters approved adding fluoride to municipal drinking water, however there had been previous votes prior to 1969, in which the outcome was to not fluoridate the drinking water.

Frequently Asked Questions:

Q: What is fluoride? Is it a natural substance?

A: Fluoride is an "ion" (an electrically charged atom) of fluorine, the 17th most common element in the earth's crust. Fluoride is found in air, soil, fresh water, sea water, plants and foods. Boulder's water sources contain small amounts of natural fluoride.

Q: What is the city's process for adding fluoride?

A: The city adds a product called "hydrofluorosilicic acid" at both water treatment plants to increase the amount of fluoride in drinking water.

Q: How much does the city of Boulder pay for hydrofluorosilicic acid?

A: About $36,000 annually to purchase the additive, which equals about $0.70 per household per year.

Q: Are there other options/methods for fluoridating the water? If so, how much would it cost annually?

A: There are other options and methods which vary in cost due to pureness of grade, availability and form (powder or liquid). The preliminary costs to purchase the additive for these options vary from about $25,800 annually to over $1.3 million annually. Some options may require additional capital costs to enable city equipment to use the new product, and for employees to safely handle the additive.

Q: Who regulates fluoride added to drinking water?

A: The Center for Disease Control and Prevention's (CDC) Web site states:

"Neither the Federal Drug Administration (FDA) nor the Environmental Protection Agency (EPA) publish standards for drinking water additives. A 1979 Memorandum of Agreement between the FDA and EPA establishes that the FDA has regulatory responsibility for beverages, and the EPA has regulatory responsibility for drinking water community water systems. The EPA additives program was discontinued in 1984 and replaced by the American National Standards Institute (ANSI) program for drinking water additives. The FDA does not regulate community drinking water but does regulate bottled water because commercial bottled water is considered to be a beverage (food)."

Q: Are there proven benefits of adding fluoride to drinking water?

A: Scientific studies have shown that fluoride, when administered at optimal dosage, has been shown to reduce the incidence of dental cavities in children. Research has established an "optimal" fluoridation range between 0.7 and 1.2 ppm (parts per million). Boulder fluoridates its drinking water to 0.9 ppm as recommended by the Colorado Department of Public Health and Environment.

Q: Are there proven risks for adding fluoride to drinking water? I've heard claims that fluoride is toxic, causes cancer or makes bones brittle?

A: There are studies that have shown health risks from too much fluoride; however, these studies have been on amounts of fluoride that are much higher than levels in the city's drinking water.

Toxicity: There is evidence that fluoride may produce adverse health effects, especially on the kidneys, at dosages significantly higher (12 times the Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL) of 4.0 mg/L) than those allowed for drinking water.

Carcinogenicity: To date, peer-reviewed studies show conflicting evidence for a fluoride-cancer link.

Laboratory studies: One recent study found a link between high-levels of fluoride (25 times the EPA MCL of 4.0 mg/L) and bone cancer in male rats, but found no such link in tests on female rats or mice. Another similar study found no cancer link among any of the mice or rats tested.
Epidemiological studies: To date, there is no conclusive evidence of a fluoride-cancer link.

Bone fractures: Inconclusive. Several human epidemiological studies have shown higher incidence of hip fractures in the elderly due to fluoride. Other studies have shown no such effect.

Q: Does the city test for arsenic or other compounds in the water?

A: Yes, please call the city of Boulder's Drinking Water Program at 303-413-7400.

Other Links:

Center for Disease Control - Fluoride FAQs

Report of the Fort Collins Technical Study Fluoride Group

Colorado Department of Public Health and Environment Fluoridation Information

If you have additional questions, please call the city of Boulder's Drinking Water Program at (303) 413-7400.